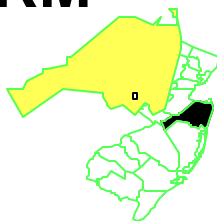


# BOG CREEK FARM

## NEW JERSEY

EPA ID# NJD063157150



**EPA REGION 2**  
CONGRESSIONAL DIST. 04  
Monmouth County  
Howell Township

## Site Description

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A 4-acre disposal area was located on the 12-acre Bog Creek Farm, which contained a pond, bog, and trench. Between 1973 and 1974, organic solvents and paint residues were dumped in and around a waste trench in the eastern part of the property. Waste sampling revealed a wide variety of volatile organic compounds (VOCs) and heavy metals. Some contaminants moved into the ground water, which carried them to the pond and bog, as well as to the north branch of Squankum Brook. Contaminant levels in the north branch of Squankum Brook decreased markedly with distance from the site and did not appear to effect the Manasquan River. The site lies in a rural agricultural and recreational area. Farms which raise horses, nursery stock, vegetables, grain, sod, and flowers are situated nearby. The Allaire State Park is ½ mile east of the site and is used by golfers, fishermen, hunters, and equestrians. There are two homes on the site and several more about 500 feet to the northwest, on Squankum Park Road. Approximately 900 people live within 1 mile of the site. The town of Farmingdale, 3 miles north of the site, has approximately 1,400 residents. Ground water is the sole drinking water source for residents near the site and is also used for irrigation. Nearby surface waters are used for recreation.

**Site Responsibility:** This site is being addressed through Federal actions.

### NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/01/83

## Threats and Contaminants

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On-site ground water and surface water contain various VOCs. Sediments were contaminated with VOCs, phthalates, and pesticides. The soil is contaminated with VOCs, pesticides, and heavy metals. Sludges on site contained VOCs and heavy metals. People were at risk from direct contact with contaminated surface water, sediments, and soil. The risk, of accidental ingestion of contaminated ground water, is greatly reduced since the contamination is confined to a closed-loop treatment system.



## Cleanup Approach

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This site has been addressed in three phases: two separate remedial action phases designed to clean up the known sources of contamination, and a long-term remedial response phase designed to clean up the remaining source materials and ultimately restore the ground water quality to the goals set out in the Record of Decision (ROD).

### Response Action Status

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**Initial Actions:** In 1984, the site owner pumped wastes from the disposal pits, hauled the wastes to an EPA-approved landfill, and backfilled the pits.



**Source Control:** Beginning in 1984, EPA installed test pits, trenches, and monitoring wells on site as part of an investigation to determine the nature and extent of contamination. In September 1985, EPA selected a remedy for controlling the source of the contamination by:

(1) removing wastewater and sediments from the pond and bog, (2) regrading and covering the pond and bog, (3) treating the wastewater in an on-site plant and discharging clean water to the nearby stream, (4) excavating the contaminated waste deposits and soil, (5) incinerating excavated materials at a temporary facility on site or at an EPA-approved facility off site, (6) conducting further analysis of soil left behind to see if further cleanup is necessary, (7) evaluating innovative technology to treat remaining soil, if necessary, (8) covering the excavated area with a compacted soil cap, (9) building a security fence around the work areas, and (10) starting a monitoring program to assess the effectiveness and reliability of the cleanup strategy. EPA completed the design specifications for this remedy in 1988, and completed the remedial action in 1990.



**Ground Water and Sediment Cleanup:** In June 1989, EPA selected a remedy which called for: (1) extracting, treating, and reinjecting ground water via the on-site water treatment plant to restore the Upper Kirkwood Aquifer to identified cleanup goals, and (2) excavating and incinerating contaminated sediments from the north branch of Squankum Brook and disposing of the incineration residues on site. Because of the timing, EPA was able to include the removal and treatment of sediment from the stream bed with the first remedial action, thus completing all incineration activities in 1990. The construction of the ground water extraction and treatment facilities

was completed in the fall of 1993, followed by a six-month startup period. The first full year of operation began in August 1994, and it is now in its ninth year. The design contractor originally estimated the cleanup would take 8 to 10 years but the data indicates that it will take considerably longer than that. The closed-loop system insures that no contaminated ground water will reach its normal discharge point of the north branch of Squankum Brook. Though the extraction/treatment system is operating very well, EPA is investigating ways to optimize the system in order to maximize the amount of contaminants captured and removed.

## Cleanup Progress (Construction Completed)

The major source control remedial actions called for under the 1985 ROD were undertaken in a 12-month field program which ended in October 1990, and included the operation of an onsite incinerator which treated 15,500 cubic yards of soil and sediments.

The water treatment system operates continuously, treating and reinjecting in excess of a million gallons of clean water per month. The first five-year review of the site, which was completed in September 1997, determined that the combined remedy was functioning properly. A second five-year review was completed in September 2002. An extensive optimization study was initiated in October 2001 and is still ongoing. This is a federal, fund-lead site.

